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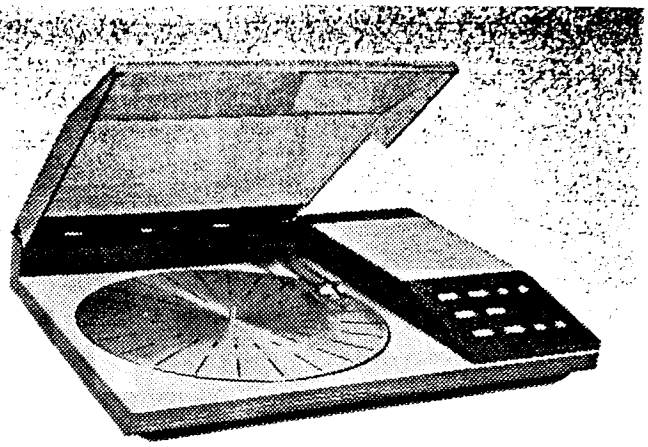
Beogram 8002
Type 5631/32/33/34/35/36/37

Beogram 8000
Type 5611/12/13/14/15/16/17

Beogram 6006
Type 5621/22/23/24/25/26/27



6.90

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SERVICE MANUAL

For Service Manuals
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DIAGRAMFORKLARING

På diagrammet er der angivet typenumre på transistorer og IC'er i de tilfælde, hvor typenummeret er entydigt for komponentens placering i kredsløbet – f.eks. TR20/BC 557B.

Hvis positionsnummeret er efterfulgt af en stjerne **skal** reservedelsnummeret benyttes, da denne komponent er specielt udvalgt – f.eks. TR102*.

Koordinatsystem

De største printplader er forsynet med et koordinatsystem. Komponenterne på disse printplader er på diagrammet forsynet med en koordinatbetegnelse, som fortæller i hvilket felt på printpladen de er placeret (mindre skrifttype end positionsnummeret – f.eks. B3).

EXPLANATION OF DIAGRAM

Type numbers of transistors and IC's have been indicated on the diagram in those cases where the type number is unambiguous for the position of the component in a circuitry – e.g. TR20/BC 557B.

If the position number is followed by an asterisk the spare part number **must be used** because this component has been expecially selected – e.g. TR102*.

Co-ordinate System

The largest PC-boards have been provided with a co-ordinate system. The components on these PC-boards are provided with a grid reference on the diagram indicating in what grid they are positioned on the PC-board (smaller typing than position numbers – e.g. B3).

ERLÄUTERUNGEN ZUM SCHALTBILD

Auf dem Schaltbild sind Typen-Nummern für Transistoren und IC's in den Fällen angegeben, in denen die Typen-Nummer für die Placierung der Komponente in einem Schaltkreis eindeutig ist – z.B. TR20/BC 557B.

Wenn auf die Positionsnummer ein Stern folgt, **ist** die Ersatzteilnummer **zu benutzen**, da diees Komponente speziell ausgewählt werden ist – z.B. TR102*.

Koordinatensystem

Die grössten Printplatten sind mit einem Koordinatensystem versehen. Die Komponenten auf diesen Printplatten sind auf dem Schaltbild mit einer Koordinatennummer versehen, die erhält, in welcher Koordinate der Printplatte sie angebracht sind (kleinere Schrifttype als die der Positionsnummer – z.B. B3).

NOTICE EXPLICATIVE DES SCHEMAS

Sur les schémas, les numéros de types sont indiqués pour les transistors et les circuits intégiés dans les cas où le numéro de type est univoque pour la disposition du composant dans un circuit – par example TR20/BC557B.

Si le numéro de position est suivi par un astérisque, il **faut** utiliser le numéro de la piece de rechange, étant donné qu'il agit dès lors d'un composant spécialement sélectionné – par example TR102*.

Systèm de coordonnées

Les plus grands circuits imprimés sont munis d'un système de coordonnées. Les composants de ces circuits imprimés portent un numéro de coordonnée sur le schéma qui indiquent dans quelle coordonnées ils sont placés sur le circuit imprimé (en caractères plus petit que ceux qui indiquent le numéro de position – par example B3).

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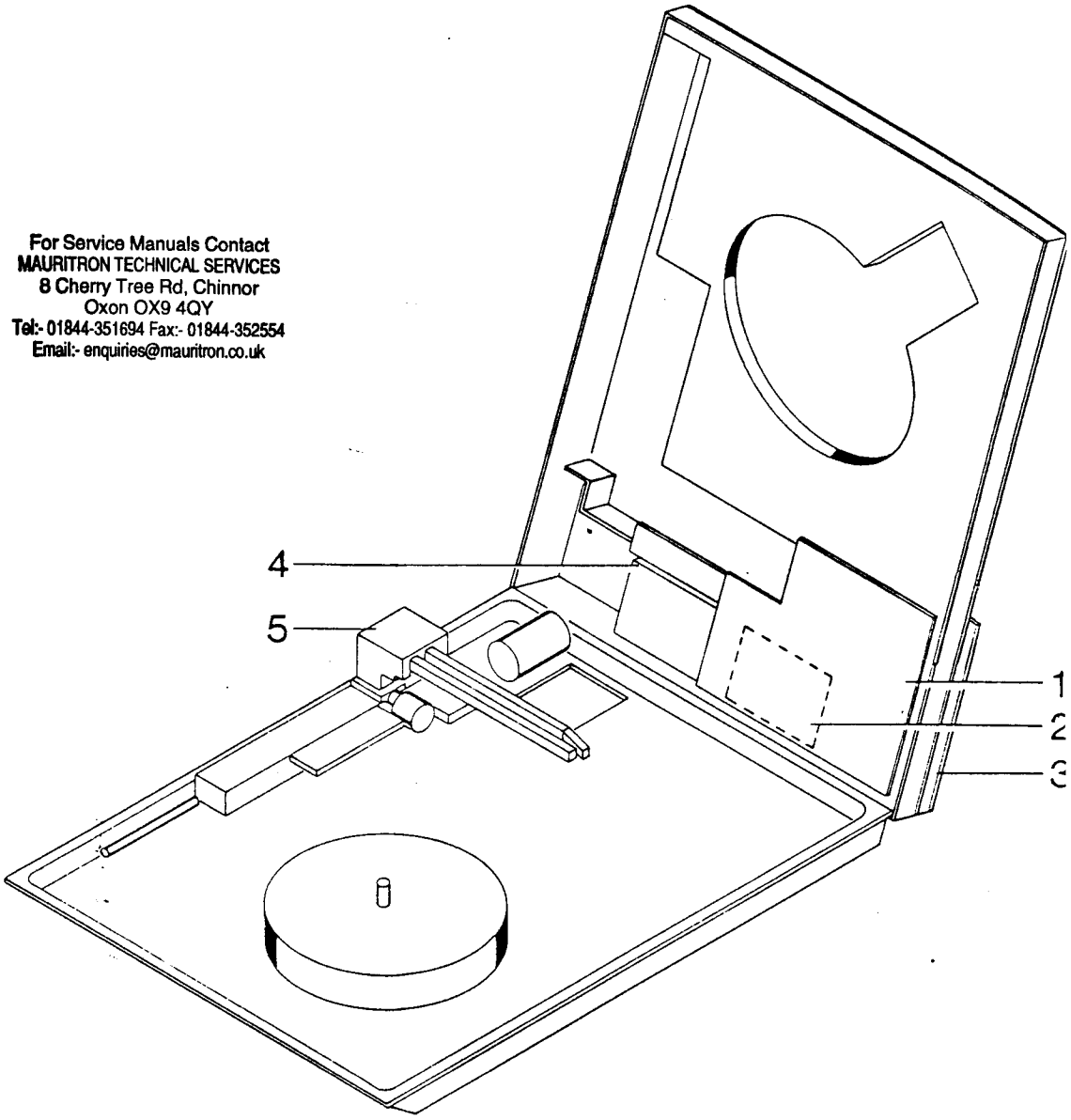
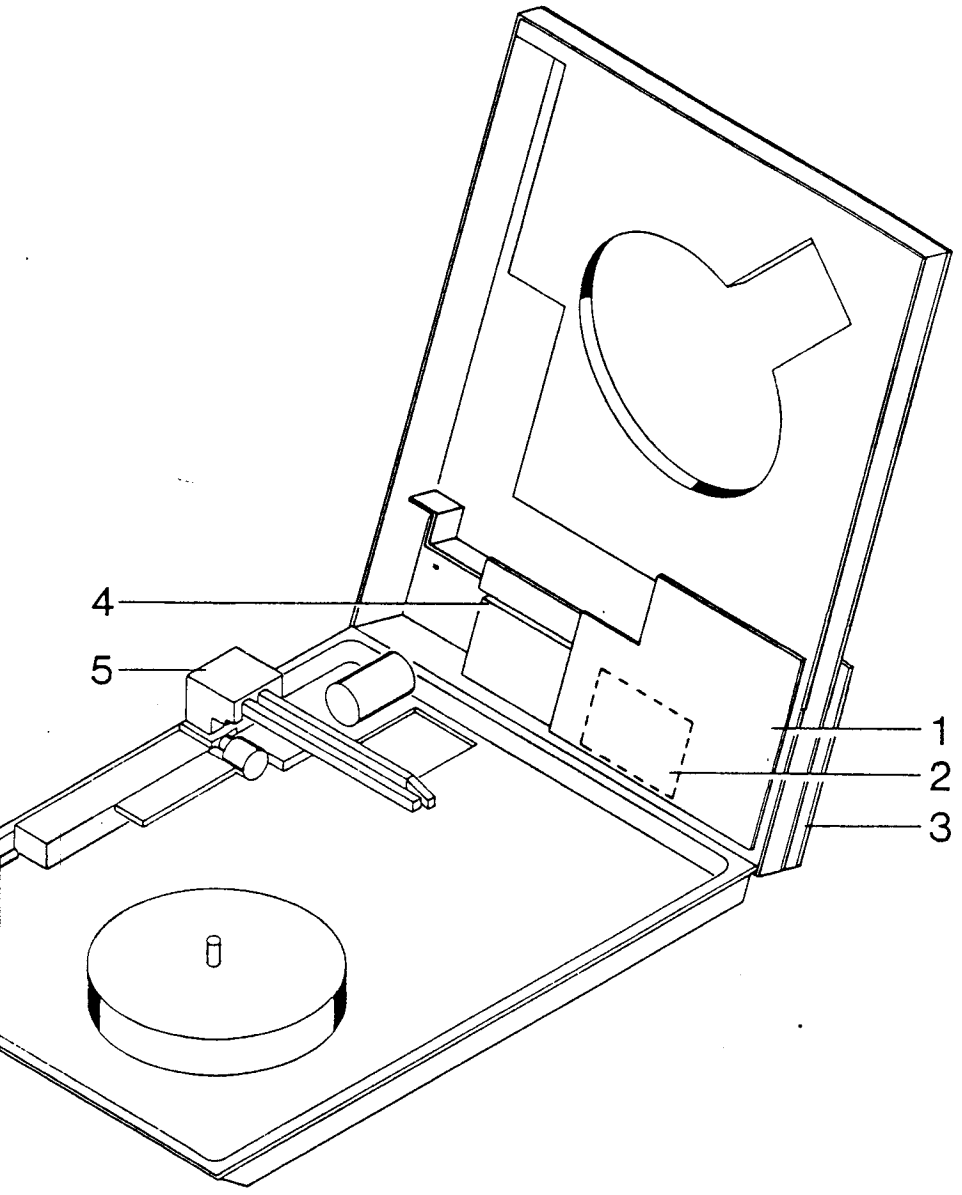


1. Control Circuits and Power Supply
2. Microcomputer
3. Operating Panel
4. Mains Transformer
5. Sliding Chassis



1. Control Circuits and Power Supply
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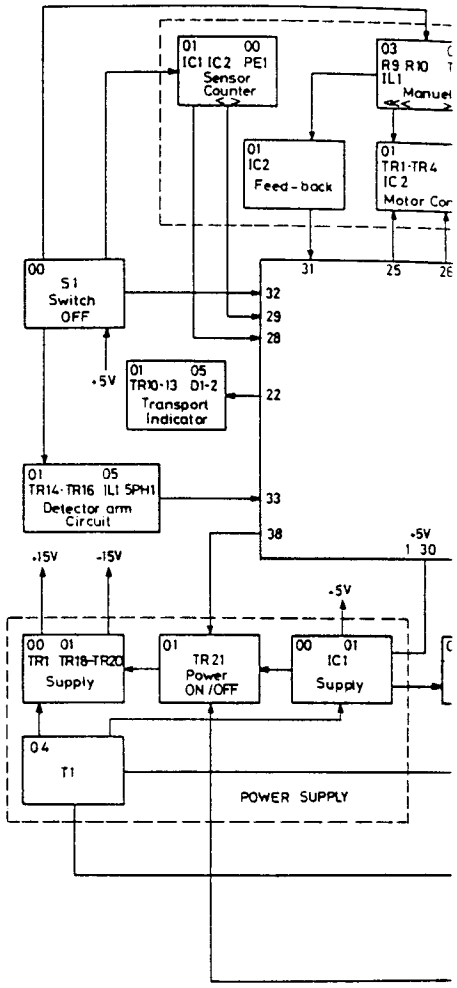
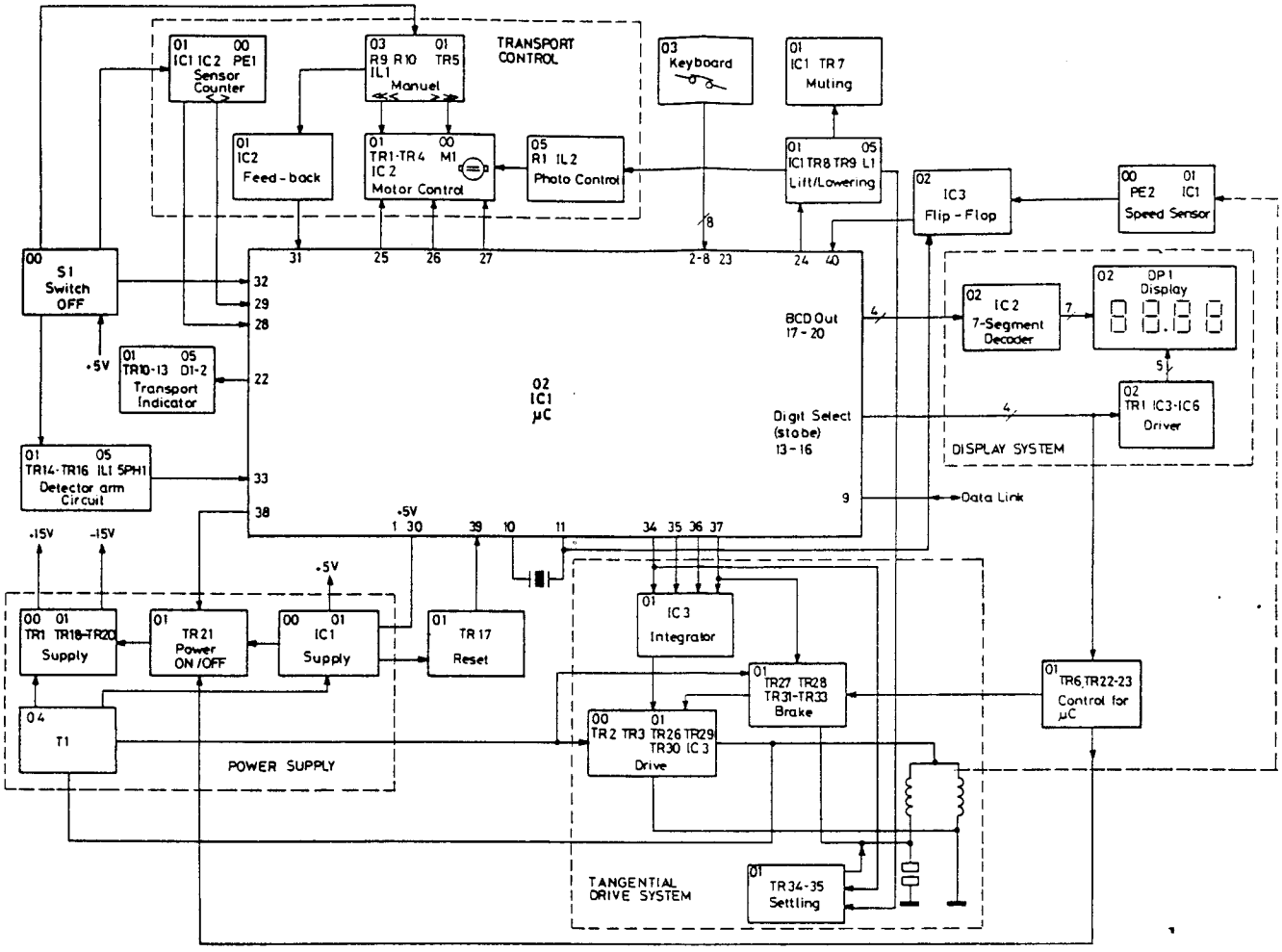
Block Diagram



2IC1 Pin Configuration

Block Diagram


TRANSPORT CONTROL
01 00 IC1 IC2 PE1 Sensor Counter
03 01 R9 R10 TR5 IL1 Manuel
01 IC2 Feed-back
01 00 TR1-TR4 M1 IC2 Motor Control
05 R1 IL2 Photo Control
03 Keyboard
01 IC1 TR7 Muting
01 05 IC1 TR8 TR9 L1 Lift/Lowering
02 IC3 Flip-Flop
00 01 PE2 IC1 Speed Sensor
00 S1 Switch OFF
+5V
01 05 TR10-13 D1-2 Transport Indicator
02 IC1 µC
BCD Out 17-20
02 IC2 7-Segment Decoder
02 DP1 Display
02 TR1 IC3-IC6 Driver
Digit Select (stobe) 13-16
DISPLAY SYSTEM
01 05 TR14-TR16 IL1 SPH1 Detector arm Circuit
Data Link
-15V
01 IC3 Integrator
00 01 TR1 TR18-TR20 Supply
01 TR21 Power ON/OFF
00 01 IC1 Supply
01 TR17 Reset
01 TR27 TR28 TR31-TR33 Brake
01 TR6,TR22-23 Control for µC
04 T1
00 01 TR2 TR3 TR26 TR29 TR30 IC3 Drive
POWER SUPPLY
TANGENTIAL DRIVE SYSTEM
01 TR34-35 Settling

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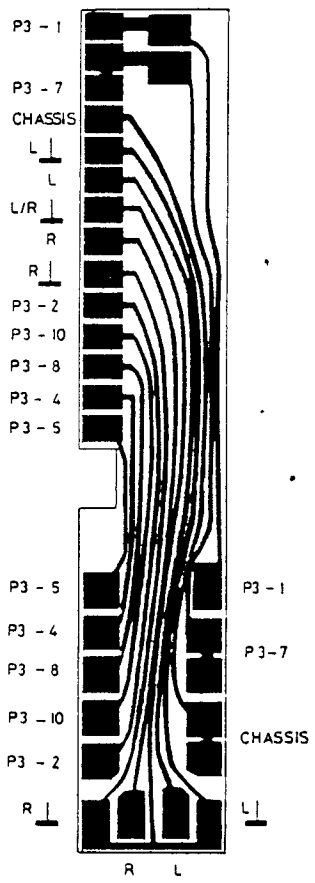
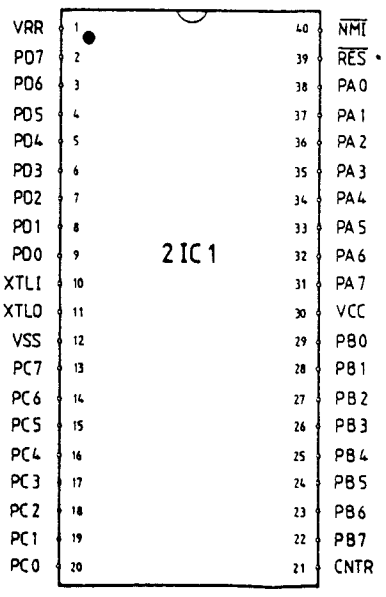


2IC1 Pin Configuration



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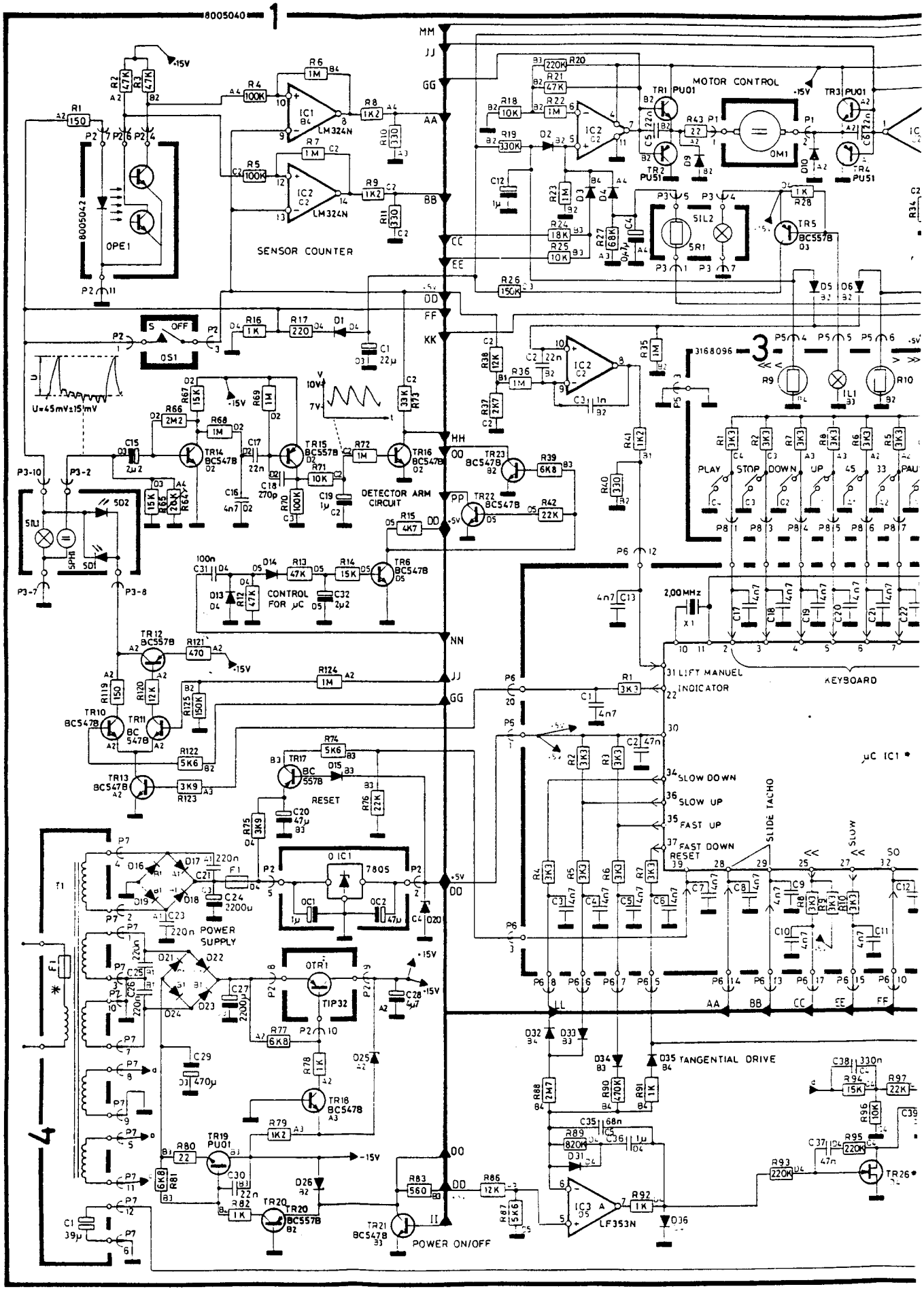

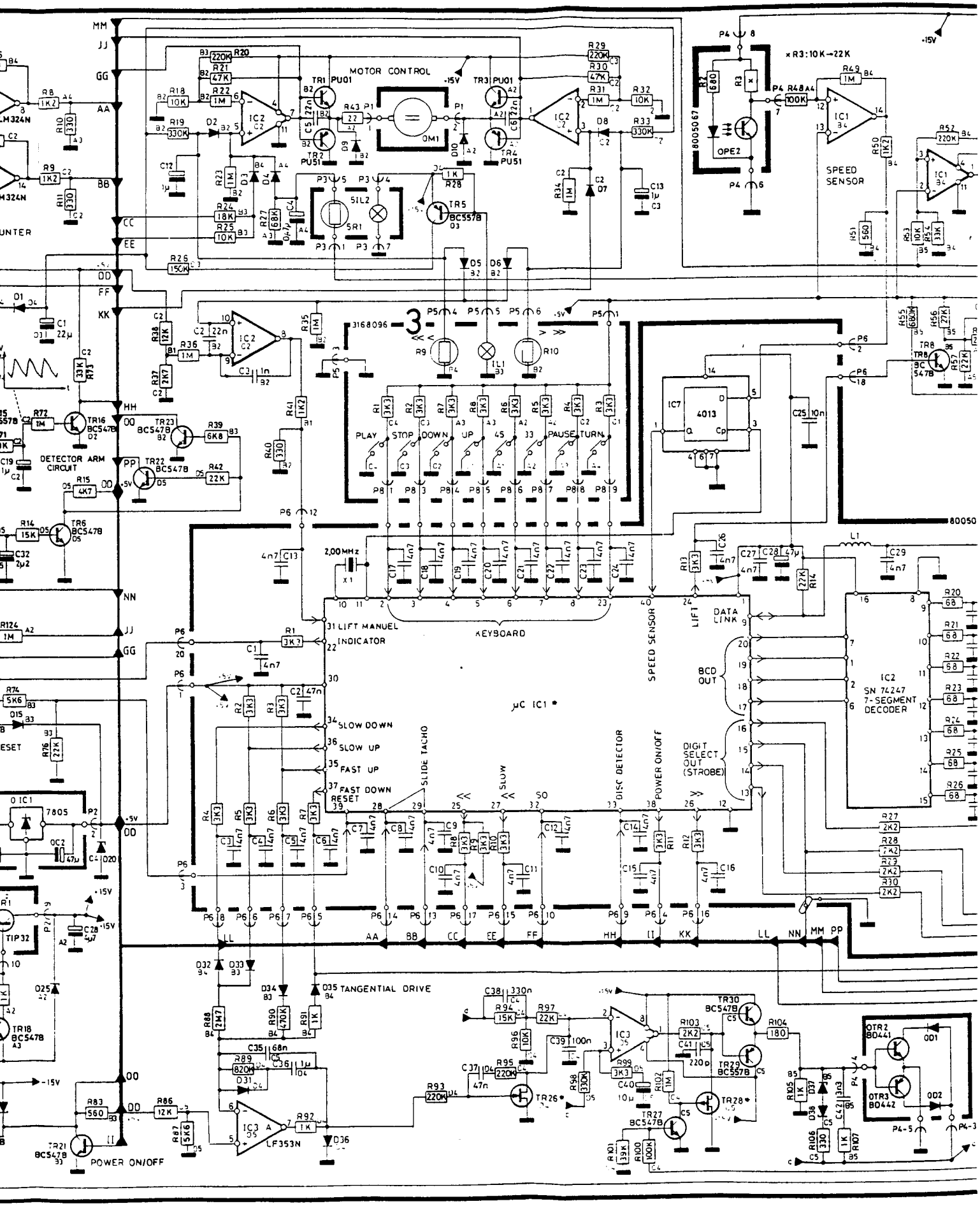
MOTOR CONTROL
SPEED SENSOR
DETECTOR ARM CIRCUIT
POWER ON/OFF
TANGENTIAL DRIVE
KEYBOARD
PLAY
STOP
DOWN
UP
45
33
PAUSE
TURN
LIFT
DATA LINK
SPEED SENSOR
BCD OUT
DIGIT SELECT OUT (STROBE)
IC2 SN 74247 7-SEGMENT DECODER
µC IC1
2,00MHz
SLOW DOWN
SLOW UP
FAST UP
FAST DOWN
RESET
SLIDE TACHO
SLOW
DISC DETECTOR
POWER ON/OFF
LIFT INDICATOR
LF353N
7805
TIP32
4013
80050

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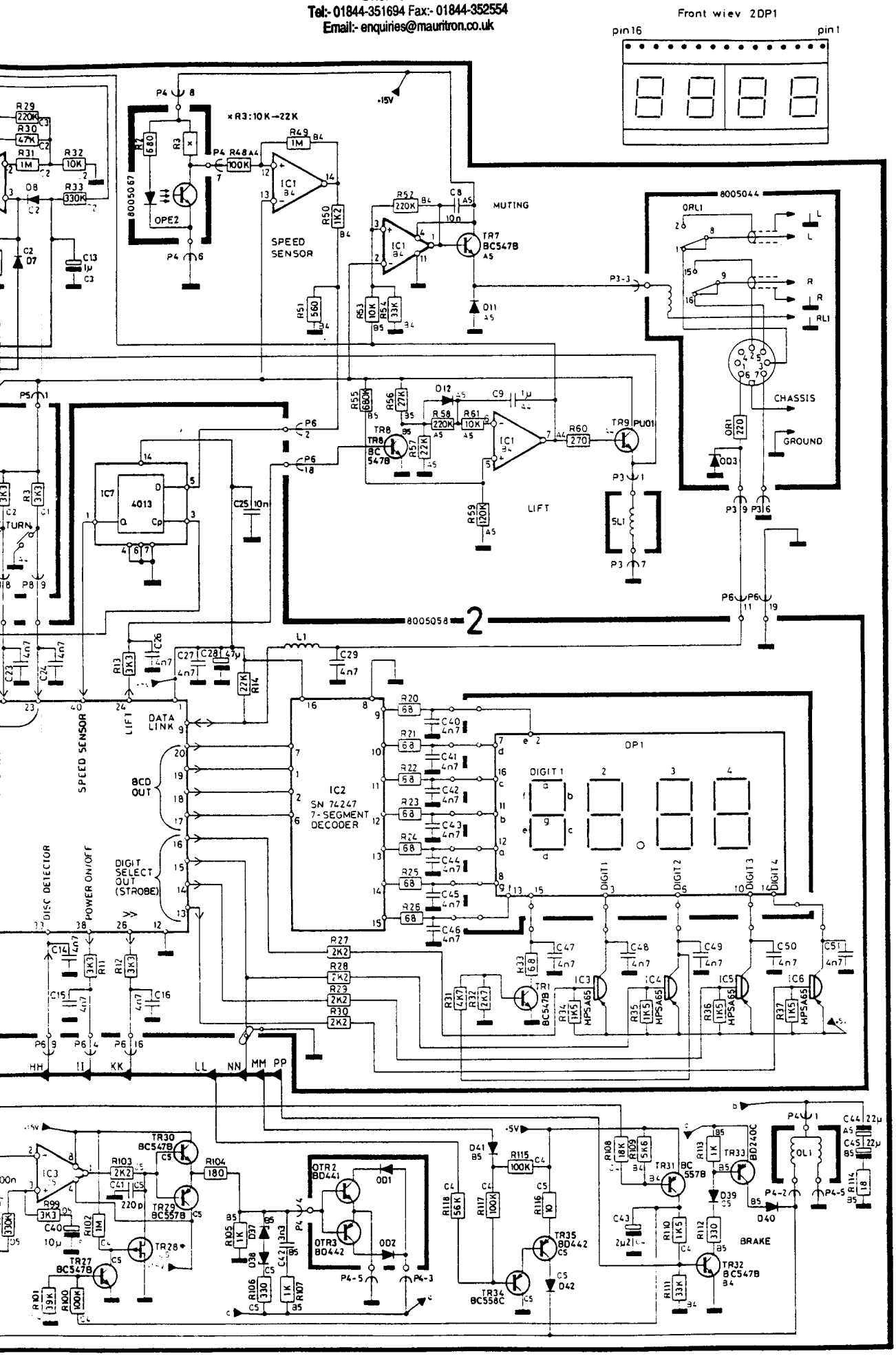
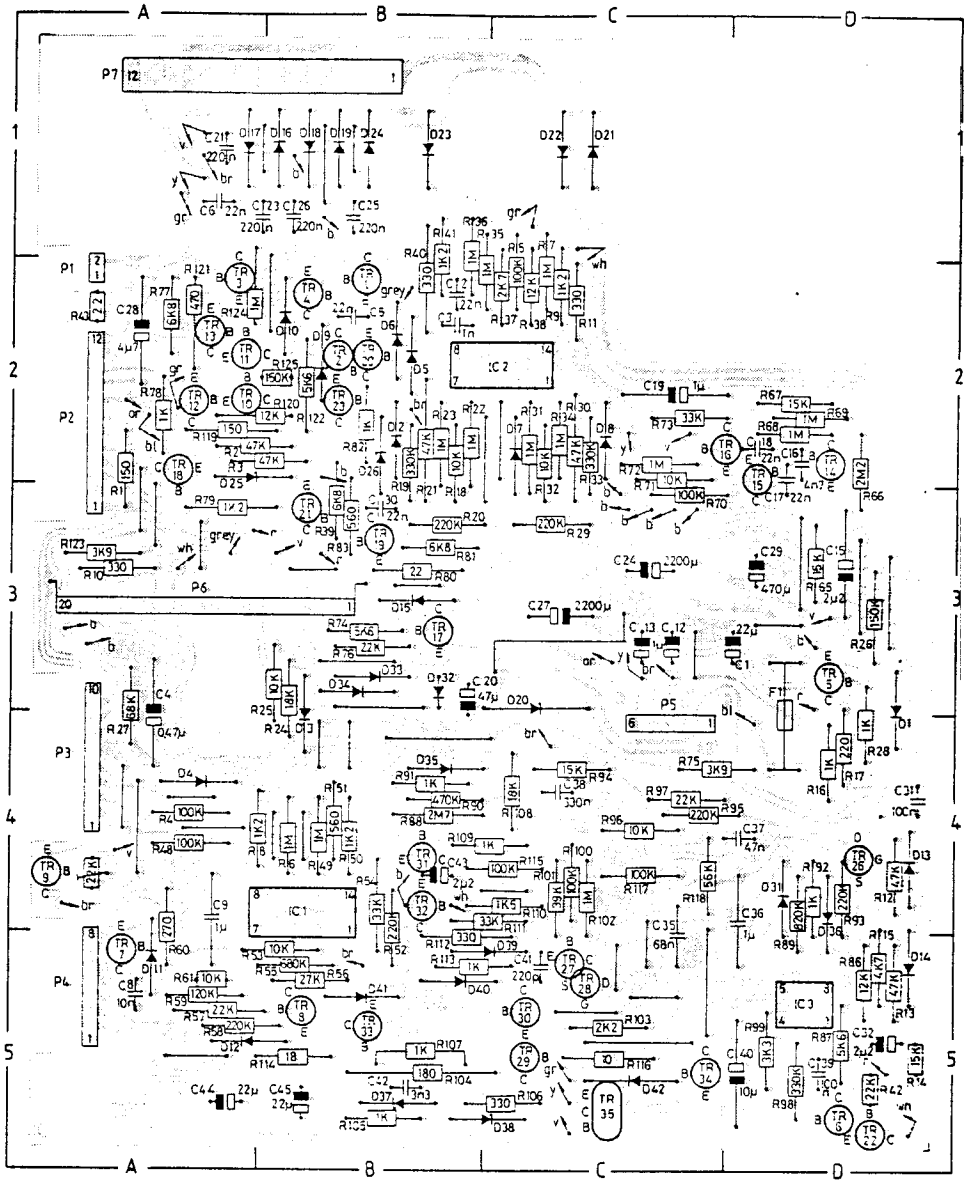


PCB1, Control Circuits and Power Supply



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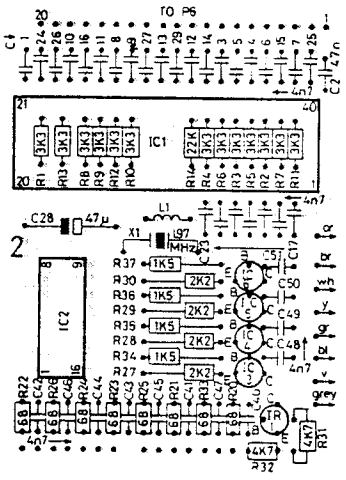
PCB2, Microcomputer

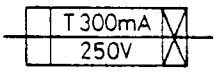


PC-Boards are seen from copperfoil-side.

FUNCTION TABLE 2IC2 (SN74247)											
DECIMAL ON DISPLAY	INPUTS				OUTPUTS						
	D	C	B	A	a	b	c	d	e	f	g
0	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	1	1	0	0	1	1	1	1
2	0	0	1	0	0	0	1	0	0	1	0
3	0	0	1	1	0	0	0	0	1	1	0
4	0	1	0	0	1	0	0	1	1	0	0
5	0	1	0	1	0	1	0	0	1	0	0
6	0	1	1	0	0	1	0	0	0	0	0
7	0	1	1	1	0	0	0	1	1	1	1
8	1	0	0	0	0	0	0	0	0	0	0
9	1	0	0	1	0	0	0	0	1	0	0
	1	1	1	1	1	1	1	1	1	1	1

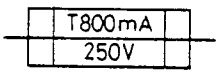
Explanation of the fuse symbols used in the set:

Explanation des symboles du fusible utilisés dans l'appareil:



Replace with same type 300 mA – 250 V slow acting fuse.

Remplacer par un fusible de même type retardé et de 300 mA – 250V



Replace with same type 800 mA – 250V quick acting fuse.

Remplacer par un fusible de même type rapide et de 800 mA – 250V.

4C1	4F1★	Type
39 µF	300 mA-S	5631
27µF	300 mA-S	5632
27µF	300 mA-S	5633
39 µF	315 mA-S	5634
39 µF	160 mA-S	5635
39 µF	160 mA-S	5636
39 µF	160 mA-S	5637 (AUS)

*0R3 10 – 33 kohms

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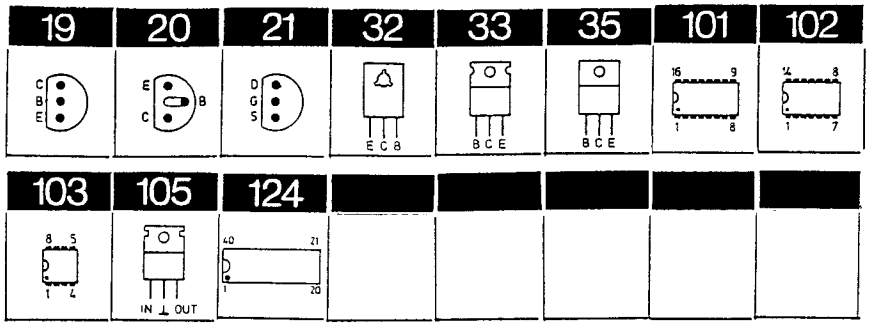
SEMICONDUCTORS



Transistors and IC's

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0TR1	8320257	33	TIP32
0TR2	8320442	32	BD 441
0TR3	8320443	32	BD 442
0IC1	8340065	105	LM 7805 CT
		105	UA 7805 UC
		105	MC 7805 CT
		105	UA 7805 CKC
1TR1	8320422	19	PU 01
1TR2	8320423	19	PU 51
1TR3	8320422	19	PU 01
1TR4	8320423	19	PU 51
1TR5	8320152	20	BC 557B
1TR6-8	8320097	20	BC 547B
1TR9	8320422	19	PU 01
1TR10-11	8320097	20	BC 547B
1TR12	8320152	20	BC 557B
1TR13-14	8320097	20	BC 547B
1TR15	8320152	20	BC 557B
1TR16	8320097	20	BC 547B
1TR17	8320152	20	BC 557B
1TR18	8320097	20	BC 547B
1TR19	8320422	19	PU 01
1TR20	8320152	20	BC 557B
1TR21-23	8320097	20	BC 547B
1TR26	8320449	21	BF 244C
1TR27	8320097	20	BC 547B
1TR28	8320466	21	J 175
1TR29	8320152	20	BC 557B
1TR30	8320097	20	BC 547B
1TR31	8320152	20	BC 557B
1TR32	8320097	20	BC 547B
1TR33	8320447	35	BD 240C
1TR34	8320398	20	BC 558C
1TR35	8320443	32	BD 442
1IC1-2	8340157	102	LM 324N
		102	TDB 0124 DP
1IC3	8340195	103	LF 353N
		103	TL 072 CP
		103	UAF 772 TC
2TR1	8320097	20	BC 547B
2IC1	8340454	124	R 1093
2IC2	8340156	101	SN 74247N
2IC3-6	8340025	19	MPSA 65
		19	SPS 5431
2IC7	8340261	102	HEF 4013 BP
		102	F 4013PC

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Diodes

209	215	217	220				

0D1-2	8300102	**209**	1N 4004
0D3	8300128	**209**	ZPD 5.6V 5%
		209	BZX 79 C5V6
		209	BZX 83 C5V6
0PE1	8330056		
0PE2	8005067		
1D1-12	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
1D16-19	8300102	**209**	1N 4004
1D20	8300201	**209**	ZPD 6V2
1D21-24	8300102	**209**	1N 4004
1D25	8300313	**217**	ZPD 15V 2%
		215	BZX 79B 15V0
		209	BZX 83B 15V0
1D26	8300053	**217**	ZPP 15
		215	BZX 79C 15V0
		209	BZX 83C 15V0
1D31-36	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
1D37-38	8300314	**209**	ZPD 47 5%
		209	BZX 79C 47V
		209	BZX 83C 47V
1D39	8300101	**215**	BAX 16
1D40	8300102	**209**	1N 4004
1D41	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
1D42	8300102	**209**	1N 4004
2DP1	8330006		NSB 3882
5D1-2	8330001	**220**	CQY 85

LIST OF ELECTRICAL PARTS

Control Circuits 80050088, PCB1

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0R1	5010092	220 kΩ ±5% 1/4µ	* 0R3		10-22 kΩ ±5% 1/4W
0R2	5001026	680 Ω ±10% 1/2W			

0C1	4200426	1 µF 50V	0RL1	7600059	Relay 12V
0C2	4200364	47 µF 10V			

R1	5010057	150 Ω ±5% 1/4W	R65	5010053	15 kΩ ±5% 1/4W
R2	5010045	47 kΩ ±5% 1/4W	R66	5010245	2.2 MΩ ±5% 1/4W
R3	5010045	47 kΩ ±5% 1/4W	R67	5010053	15 kΩ ±5% 1/4W
R4	5100049	100 kΩ ±5% 1/4W	R68	5010054	1 MΩ ±5% 1/4W
R5	5010049	100 kΩ ±5% 1/4W	R69	5010054	1 MΩ ±5% 1/4W
R6	5010054	1 MΩ ±5% 1/4W	R70	5010049	100 kΩ ±5% 1/4W
R7	5010054	1 MΩ ±5% 1/4W	R71	5010059	10 kΩ ±5% 1/4W
R8	5010153	1.2 kΩ ±5% 1/4W	R72	5010054	1 MΩ ±5% 1/4W
R9	5010153	1.2 kΩ ±5% 1/4W	R73	5010075	33 kΩ ±5% 1/4W
R10	5010044	330 Ω ±5% 1/4W	R74	5010041	5.6 kΩ ±5% 1/4W
R11	5010044	330 Ω ±5% 1/4W	R75	5010069	3.9 kΩ ±5% 1/4W
R12	5010045	47 kΩ ±5% 1/4W	R76	5010079	22 kΩ ±5% 1/4W
R13	5010045	47 kΩ ±5% 1/4W	R77	5010052	6.8 kΩ ±5% 1/4W
R14	5010053	15 kΩ ±5% 1/4W	R78	5010040	1 kΩ ±5% 1/4W
R15	5010048	4.7 kΩ ±5% 1/4W	R79	5001030	1.2 kΩ ±10% 1/2W
R16	5010040	1 kΩ ±5% 1/4W	R80	5001004	22 Ω ±10% 1/2W
R17	5010092	220 Ω ±5% 1/4W	R81	5010052	6.8 kΩ ±5% 1/4W
R18	5010059	10 kΩ ±5% 1/4W	R82	5010040	1 kΩ ±5% 1/4W
R19	5010117	330 kΩ ±5% 1/4W	R83	5010067	560 Ω ±5% 1/4W
R20	5010120	220 kΩ ±5% 1/4W	R86	5010046	12 kΩ ±5% 1/4W
R21	5010045	47 kΩ ±5% 1/4W	R87	5010041	5.6 kΩ ±5% 1/4W
R22	5010054	1 MΩ ±5% 1/4W	R88	5010431	2.7 MΩ ±5% 1/4W
R23	5010054	1 MΩ ±5% 1/4W	R89	5010505	820 kΩ ±5% 1/4W
R24	5010135	18 kΩ ±5% 1/4W	R90	5010077	470 kΩ ±5% 1/4W
R25	5010059	10 kΩ ±5% 1/4W	R91	5010040	1 kΩ ±5% 1/4W
R26	5010063	150 kΩ ±5% 1/4W	R92	5010040	1 kΩ ±5% 1/4W
R27	5010062	68 kΩ ±5% 1/4W	R93	5010120	220 kΩ ±5% 1/4W
R28	5010040	1 kΩ ±5% 1/4W	R94	5010053	15 kΩ ±5% 1/4W
R29	5010120	220 kΩ ±5% 1/4W	R95	5010120	220 kΩ ±5% 1/4W
R30	5010045	47 kΩ ±5% 1/4W	R96	5010059	10 kΩ ±5% 1/4W
R31	5010054	1 MΩ ±5% 1/4W	R97	5010079	22 kΩ ±5% 1/4W
R32	5010059	10 kΩ ±5% 1/4W	R98	5010117	330 kΩ ±5% 1/4W
R33	5010117	330 kΩ ±5% 1/4W	R99	5010076	3.3 kΩ ±5% 1/4W
R34	5010054	1 MΩ ±5% 1/4W	R100	5010049	100 kΩ ±5% 1/4W
R35	5010054	1 MΩ ±5% 1/4W	R101	5010060	39 kΩ ±5% 1/4W
R36	5010054	1 MΩ ±5% 1/4W	R102	5010054	1 MΩ ±5% 1/4W
R37	5010298	2.7 kΩ ±5% 1/4W	R103	5010064	2.2 kΩ ±5% 1/4W
R38	5010046	12 kΩ ±5% 1/4W	R104	5002016	180 Ω ±10% 1W
R39	5010052	6.8 kΩ ±5% 1/4W	R105	5010040	1 kΩ ±5% 1/4W
R40	5010044	330 Ω ±5% 1/4W	R106	5010044	330 Ω ±5% 1/4W
R41	5010153	1.2 kΩ ±5% 1/4W	R107	5010040	1 kΩ ±5% 1/4W
R42	5010079	22 kΩ ±5% 1/4W	R108	5010135	18 kΩ ±5% 1/4W
R43	5001004	22 Ω ±10% 1/2W	R109	5010041	5.6 kΩ ±5% 1/4W
R48	5010049	100 kΩ ±5% 1/4W	R110	5010247	1.5 kΩ ±5% 1/4W
R49	5010054	1 MΩ ±5% 1/4W	R111	5010075	33 kΩ ±5% 1/4W
R50	5010153	1.2 kΩ ±5% 1/4W	R112	5001021	330 Ω ±10% 1/2W
R51	5010067	560 Ω ±5% 1/4W	R113	5010040	1 kΩ ±5% 1/4W
R52	5010120	220 kΩ ±5% 1/4W	R114	5010822	18 Ω ±5% 1/4W
R53	5010059	10 kΩ ±5% 1/4W	R115	5010049	100 kΩ ±5% 1/4W
R54	5010075	33 kΩ ±5% 1/4W	R116	5001001	10 Ω ±10% 1/2W
R55	5010074	680 kΩ ±5% 1/4W	R117	5010049	100 kΩ ±5% 1/4W
R56	5010141	27 kΩ ±5% 1/4W	R118	5010061	56 kΩ ±5% 1/4W
R57	5010079	22 kΩ ±5% 1/4W	R119	5010057	150 Ω ±5% 1/4W
R58	5010120	220 kΩ ±5% 1/4W	R120	5010046	12 kΩ ±5% 1/4W
R59	5010047	120 kΩ ±5% 1/4W	R121	5001024	470 Ω ±10% 1/2W
R60	5010000	270 Ω ±5% 1/4W	R122	5010041	5.6 kΩ ±5% 1/4W
R61	5010059	10 kΩ ±5% 1/4W	R123	5010069	3.9 kΩ ±5% 1/4W
R64	5370068	22 kΩ ±20% Lin.	R124	5010054	1 MΩ ±5% 1/4W

C1	4200100	22 µF 40V	C12	4200426	1 µF 50V
C2	4010060	22 nF -20+80% 40V	C13	4200426	1 µF 50V
C3	4010027	1 nF ±10% 100V	C15	4201035	2.2 µF 63V
C4	4200285	0.47 µF 63V	C16	4010063	4.7 nF ±10% 63V
C5	4010060	22 nF -20+80% 40V	C17	4010060	22 nF -20+80% 40V
C6	4130193	22 nF ±20% 63V	C18	4000071	270 pF ±5% 63V N750
C8	4010041	10 nF -20+80% 40V	C19	4200333	1 µF 63V
C9	4130155	1 µF ±10% 100V	C20	4200483	47 µF 16V
C11	4010041	10 nF -20+80% 40V	C21	4130215	220 nF ±20% 63V

C23	4130215	220 nF ±20% 63V	C36	4130155	1 µF ±10% 100V
C24	4200392	2200 µF 16V	C37	4130210	47 nF ±20% 63V
C25	4130215	220 nF ±20% 63V	C38	4130171	330 µF ±20% 63V
C26	4130215	220 nF ±20% 63V	C39	4130179	100 nF ±20% 63V
C27	4200393	2200 µF 63V	C40	4200342	10 µF 63V
C28	4200322	4.7 µF 63V	C41	4010021	220 pF ±10% 100V
C29	4200275	470 µF 40V	C42	4011025	3.3 nF ±10% 100V
C30	4010060	22 µF -20+80% 40V	C43	4200423	2.2 µF 50V
C31	4130179	100 nF ±20% 63V	C44	4201078	22 µF 63V
C32	4200423	2.2 µF 50V	C45	4201078	22 µF 63V
C35	4130100	68 nF ±10% 250V			

F1	6604004	Fuse 800 mA-F/250V IEC 127
	7500002	Holder f/fuse
	7500013	Contact pin

P1	7220176	Plug 2 pins	P5	7210234	Socket 6/5 pins
P2	7220199	Plug 12 pins	P6	7210287	Socket 20 pins
P3	7220169	Plug 10 pins	P7	7220187	Plug 12 pins
P4	7220168	Plug 8 pins			

Microcomputer 8005086, PCB2

R1	5010827	3.3 kΩ ±5% 1/4W	R22	5010039	68 Ω ±5% 1/4W
R2	5010827	3.3 kΩ ±5% 1/4W	R23	5010039	68 Ω ±5% 1/4W
R3	5010827	3.3 kΩ ±5% 1/4W	R24	5010039	68 Ω ±5% 1/4W
R4	5010827	3.3 kΩ ±5% 1/4W	R25	5010039	68 Ω ±5% 1/4W
R5	5010827	3.3 kΩ ±5% 1/4W	R26	5010039	68 Ω ±5% 1/4W
R6	5010827	3.3 kΩ ±5% 1/4W	R27	5010064	2.2 kΩ ±5% 1/4W
R7	5010827	3.3 kΩ ±5% 1/4W	R28	5010064	2.2 kΩ ±5% 1/4W
R8	5010827	3.3 kΩ ±5% 1/4W	R29	5010064	2.2 kΩ ±5% 1/4W
R9	5010827	3.3 kΩ ±5% 1/4W	R30	5010064	2.2 kΩ ±5% 1/4W
R10	5010827	3.3 kΩ ±5% 1/4W	R31	5010048	4.7 kΩ ±5% 1/4W
R11	5010827	3.3 kΩ ±5% 1/4W	R32	5010298	2.7 kΩ ±5% 1/4W
R12	5010827	3.3 kΩ ±5% 1/4W	R33	5010039	68 Ω ±5% 1/4W
R13	5010827	3.3 kΩ ±5% 1/4W	R34	5010247	1.5 kΩ ±5% 1/4W
R14	5010833	22 kΩ ±5% 1/4W	R35	5010247	1.5 kΩ ±5% 1/4W
R20	5010039	68 Ω ±5% 1/4W	R36	5010247	1.5 kΩ ±5% 1/4W
R21	5010039	68 Ω ±5% 1/4W	R37	5010247	1.5 kΩ ±5% 1/4W

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C1	4010063	4.7 nF ±10% 63V	C22	4010063	4.7 nF ±10% 63V
C2	4030015	47 nF -20+80% 16V	C23	4010063	4.7 nF ±10% 63V
C3	4010063	4.7 nF ±10% 63V	C24	4010063	4.7 nF ±10% 63V
C4	4010063	4.7 nF ±10% 63V	C25	4010041	10 nF -20+80% 40V
C5	4010063	4.7 nF ±10% 63V	C26	4010063	4.7 nF ±10% 63V
C6	4010063	4.7 nF ±10% 63V	C27	4010063	4.7 nF ±10% 63V
C7	4010063	4.7 nF ±10% 63V	C28	4200364	47 µF 10V
C8	4010063	4.7 nF ±10% 63V	C29	4010063	4.7 nF ±10% 63V
C9	4010063	4.7 nF ±10% 63V	C40	4010063	4.7 nF ±10% 63V
C10	4010063	4.7 nF ±10% 63V	C41	4010063	4.7 nF ±10% 63V
C11	4010063	4.7 nF ±10% 63V	C42	4010063	4.7 nF ±10% 63V
C12	4010063	4.7 nF ±10% 63V	C43	4010063	4.7 nF ±10% 63V
C13	4010063	4.7 nF ±10% 63V	C44	4010063	4.7 nF ±10% 63V
C14	4010063	4.7 nF ±10% 63V	C45	4010063	4.7 nF ±10% 63V
C15	4010063	4.7 nF ±10% 63V	C46	4010063	4.7 nF ±10% 63V
C16	4010063	4.7 nF ±10% 63V	C47	4010063	4.7 nF ±10% 63V
C17	4010063	4.7 nF ±10% 63V	C48	4010063	4.7 nF ±10% 63V
C18	4010063	4.7 nF ±10% 63V	C49	4010063	4.7 nF ±10% 63V
C19	4010063	4.7 nF ±10% 63V	C50	4010063	4.7 nF ±10% 63V
C20	4010063	4.7 nF ±10% 63V	C51	4010063	4.7 nF ±10% 63V
C21	4010063	4.7 nF ±10% 63V			

P8	6273911	Wires w/socket	L1	8020342	10 mH
	6200015	Flat cable – 7			
	6200029	Flat cable – 10	X1	8090021	2 MHz
	7200057	Socket for IC1			
	8005065	PCB w/IC7			

Operating Panel 3168096, PCB3

R1	5010076	3.3 kΩ ±5% 1/4W	R6	5010076	3.3 kΩ ±5% 1/4W
R2	5010076	3.3 kΩ ±5% 1/4W	R7	5010076	3.3 kΩ ±5% 1/4W
R3	5010076	3.3 kΩ ±5% 1/4W	R8	5010076	3.3 kΩ ±5% 1/4W
R4	5010076	3.3 kΩ ±5% 1/4W	R9	5210009	Photo resistor
R5	5010076	3.3 kΩ ±5% 1/4W	R10	5210009	Photo resistor

IL1	8230068	18V/30 mA

P5	6200030	Flat cable 6/5
P8	7220144	Plug 9/8 pins

Mains Transformer, Module 4

C1	4200391	39 µF 55V type 5631	F1	6600040	300 mA slow type 5631
C1	4200448	27 µF 55V type 5632	F1	6600040	300 mA slow type 5632
C1	4200448	27 µF 55V type 5633	F1	6600040	300 mA slow type 5633
C1	4200391	39 µF 55V type 5634	F1	6600028	315 mA slow type 5634
C1	4200391	39 µF 55V type 5635	F1	6600039	160 mA slow type 5635
C1	4200391	39 µF 55V type 5636	F1	6600039	160 mA slow type 5636
C1	4200391	39 µF 55V type 5637	F1	6600039	160 mA slow type 5637

Sliding Chassis Module 5

P7	7210203	Socket 12 pins

IL1	8230069	5V 60 mA	R1	5210009	Photo resistor
IL2	8230068	18V 30 mA	PH1	8760002	

L1	6810008	Coil

Beogram 8000 and 6006

0RL1	7600059	Relay (Omron)
1IC1	8340157	LM 324N
1D37	8300314	ZPD 47
1D38	8300314	ZPD 47

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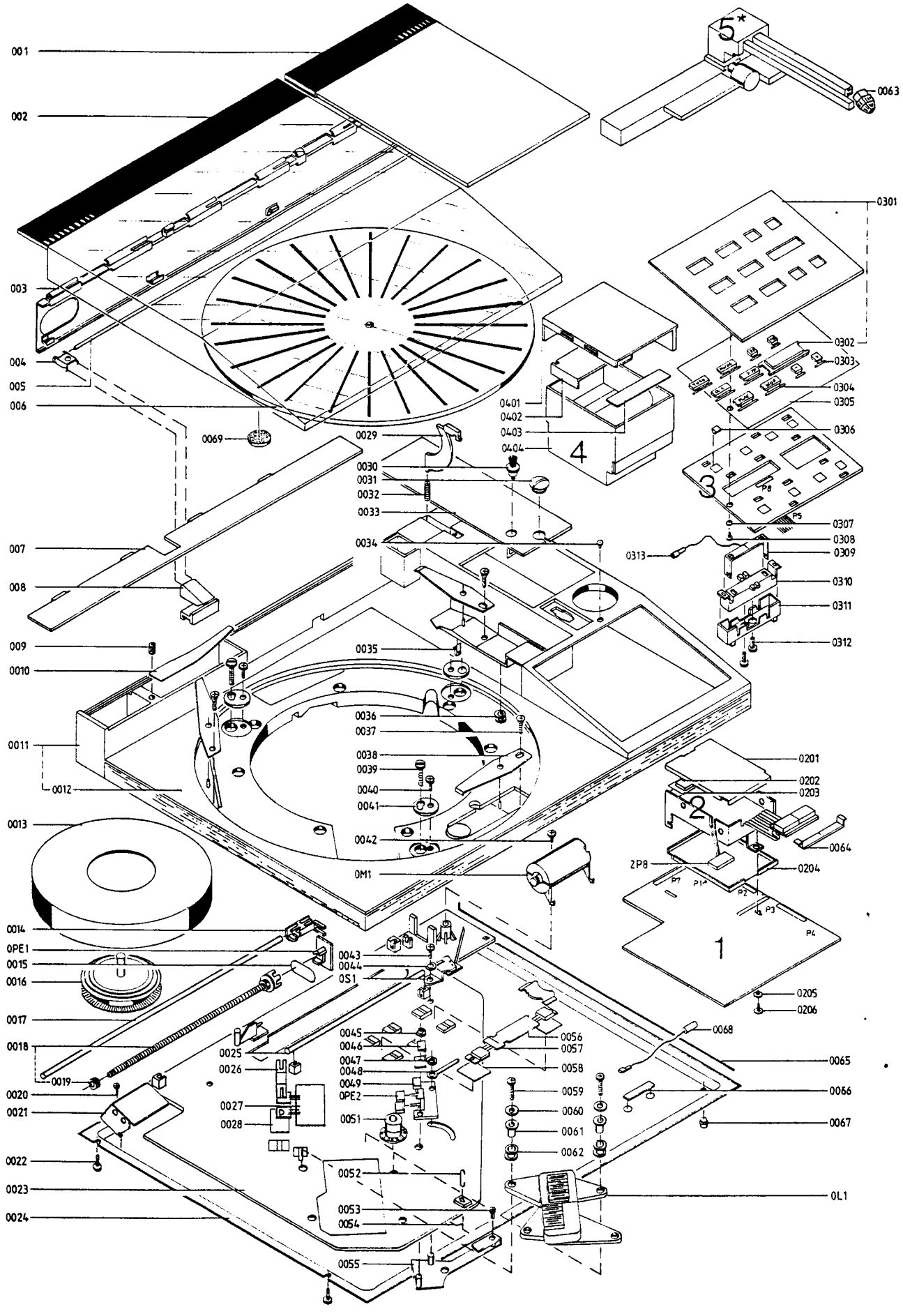
BEOGRAM 8002



List of Mechanical Parts

001	3164425	Lid	0033	3458252	Cover
* 002	3164497	Dust cover	0034	3010007	Stop
* 003	3030067	Back part	0035	2640040	Locking plate
004	2542527	Hinge	0036	2938095	Rubber bushing
005	2831043	Shaft	0037	2013028	Screw 2.9 x 16
* 006	2726148	Turntable	0038	2816184	Leaf spring
007	3162131	Cover	0039	2042216	Screw AM4 x 16
008	3030048	Bracket	0040	2013207	Screw 2.9 x 9.5
009	2072102	Threaded pin M4 x 12	0041	2641097	Clamp
0010	2816168	Leaf spring	0042	2015903	Screw 3.5 x 9.5
0011	3413911	Cabinet, teak	0043	2043013	Screw M4 x 6
	3413913	Cabinet, rosewood	0044	2624038	Washer 4.2
	3413914	Cabinet, oak	0045	2390081	Locking ring 4
	3413915	Cabinet, white	0046	3151177	Holder
0012	3458274	Aluminium top plate	0047	2390081	Locking ring 4
0013	2871009	Rotor	0048	7530091	Solder tag
0014	3152293	Holder	0049	3151178	Holder
0015	2732045	Belt	0051	2938186	Bearing
0016	2726123	Hub	0052	2514028	Hook
0017	2830092	Shaft, 50 Hz	0053	2013906	Screw 2.9 x 6.5
	2830099	Shaft, 60 Hz	0054	2894045	Spring
0018	2993034	Spindle	0055	2852041	Arm
0019	2389057	Threaded bushing	0056	2816163	Bronze spring
0020	2039027	Screw AM3 x 6, black	0057	6140697	PCB 0IC1/TR1
0021	8005044	PCB Muting	0058	3170169	Mica sheet
	3302348	Screen for 0RL1	0059	2043013	Screw M4 x 16
0022	2039027	Screw AM3 x 6, black	0060	2622024	Washer 4.3
0023	3114156	Floating chassis	0061	2390079	Bushing
0024	3454236	Bottom	0062	2938149	Rubber bushing
0025	2830093	Shaft	* 0063	8954830	MMC2 (replacement)
0026	2816160	Bronze spring	0064	3151173	Bronze spring
0027	6140698	PCB 0TR2/3	0065	2830084	Shaft
0028	3170169	Mica sheet	0066	3152101	Holder
0029	3011012	Friction arm	0067	3103067	Rubber foot
* 0030	3627013	Cleansing brush	0068	6273957	Chassis connection
0031	2775659	Button	0069	3333013	Rubber washer
0032	2810096	Spring			

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00L1	3351012	Stator for drive motor	00PE2	8005067	PCB Tacho – light coupler
00M1	8400100	Servo motor	00S1	7400242	Micro switch
00PE1	8330056	PCB servo motor – light coupler			

* 01Modul	8005088	PCB1 Control			
	3152214	Cable binder			

02Modul	8005086	PCB2 Microprocessor	0205	2622052	Fibre washer
	8005065	PCB Flip-flop	0206	2013095	Screw 2.9 x 9.5
0201	3162136	Cover		2938001	Bushing
0202	3947092	Tape		3947093	Tape
0203	3358168	Heat sink	02P8	6273911	Wire bundle
0204	3162136	Cover			

* 03Modul	3168096	Operating panel	0308	2011305	Screw 2.2 x 3.2
0301	3168168	Panel	0309	2816158	Bronze spring
0302	3370123	Window	0310	3131157	Housing
* 0303	2775706	Set of knobs, small	0311	3164324	Cover
* 0304	2775705	Set of knobs, large	0312	2044017	Screw M5 x 10
0305	3947075	Polyester tape	0313	6273952	Chassis connection
0306	7500148	Contact spring	03P5	6200030	Flat cable 6 pol.
0307	2622005	Fibre washer 2.2			

04Modul	8013240	Type 5631, 100V – 50 Hz	0401	3164321	Cover
	8013241	Type 5632, 100V – 60 Hz	0402	7200052	Holder for fuse
	8013242	Type 5633, 120V – 60 Hz	0403	2645034	Insulation piece
	8013243	Type 5634, 127V – 50 Hz	0404	3131159	Housing
	8013205	Type 5635, 220V – 50 Hz			
	8013244	Type 5636, 240V – 50 Hz			
	8013245	Type 5637, 240V – 50 Hz			

* 05Modul	8055026	Sliding chassis	*see Beogram 8000/6006

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Sliding Chassis 8055026

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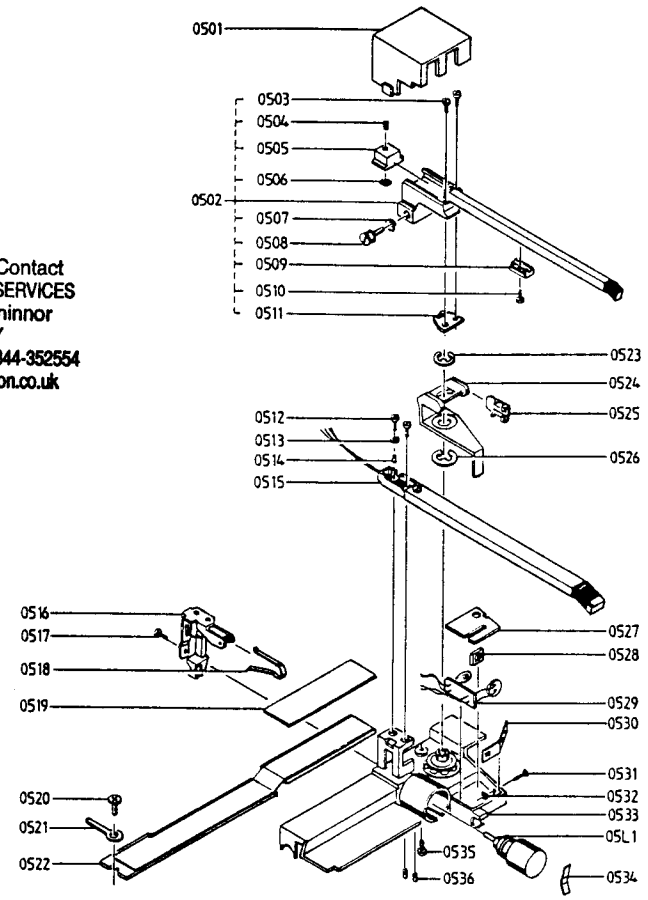

0501	3164481	Cover	0519	3302319	Cover
0502	3152378	Arm, complete	0520	2043024	Screw M4 x 6
0503	2034045	Screw AM2 x 6	0521	7530091	Solder tag
0504	2072703	Threaded pin	0522	8005043	PCB flexible with bracket
0505	3342074	Counter weight	0523	2390033	E-ring 5
0506	2380054	Square nut M3	0524	3150050	Bearing holder
0507	2812089	Spring	0525	2816157	Spring
0508	2038077	Adjustment screw	0526	2390079	Spring washer Ø6
0509	3190085	Sliding indicator	0527	3164319	Cover
0510	2034236	Screw AM2 x 3	0528	3375032	Magnifier
0511	2641090	Clamp	0529	8005054	PCB 5R1/IL2
0512	2038247	Screw AM3 x 6	0530	2816164	Aperture
0513	2622041	Washer 3.2	0531	2034014	Adjustment screw AM2 x 8
0514	6430067	Silicon insulation	0532	2380068	Square nut M2
0515	2850116	Slave arm, complete	0533	3114172	Slide
0516	2530396	Bracket	0534	2816165	Bronze spring
0517	2034236	Screw AM2 x 3	0535	2038212	Screw AM3 x 8
0518	2816185	Spring	0536	6430067	Silicone insulation

05L1	6810008	Coil

Parts Not Shown

3015085	Record adaptor	3390114	Plastic bag for cover
6270213	Connector 7 pol.	3917041	Foam block
6270204	Connector 5 pol.	3917045	Foam insert
6273846	Bundle of wires 12 pol./P2	6271119	Mains connector type 5631/32
6273845	Bundle of wires 10 pol./P3	6100012	Mains connector type 5633
6273847	Bundle of wires 8 pol./P4	6271102	Mains connector type 5634/35/36
3535077	Diagram	6271161	Mains connector type 5637
3391538	Outer carton		
3397428	Foam packing set		

Beogram 8000 and 6006, Type 561x and 2x

002	3164426	Dustcover 561x	006	2726118	Turntable
	3164132	Dust cover 562x	0030	3627007	Brush
003	3030039	Back part	0063	8954670	MMC 20CL (replacement)
01Modul	8005040	PCB1, Control	03Modul	3168203	Operating panel 562x
02Modul	8005058	PCB2, Microprocessor	0303	2775900	Set of knobs, black
05Modul	8055024	Sliding chassis complete	0540	2390079	Spring washer Ø6
0539		To be deleted in service manual			

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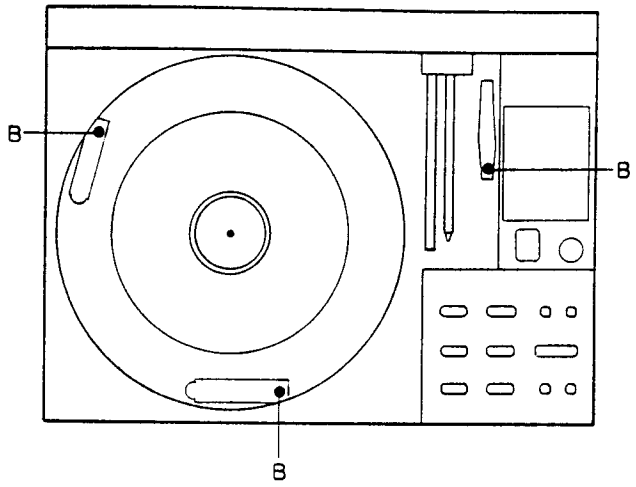
ADJUSTMENTS

For some adjustments it is necessary to be able to operate the record player functions with a stationary turntable. The stationary state is obtained by **disconnecting the mains voltage,** removing P4 and reconnecting the mains voltage.

Drive Unit Height



Adjust the screws B – while putting the turntable on and taking it off again – until the top edge of the turntable is 2 mm higher than the cover plate.

Tightening of the Detector Arm

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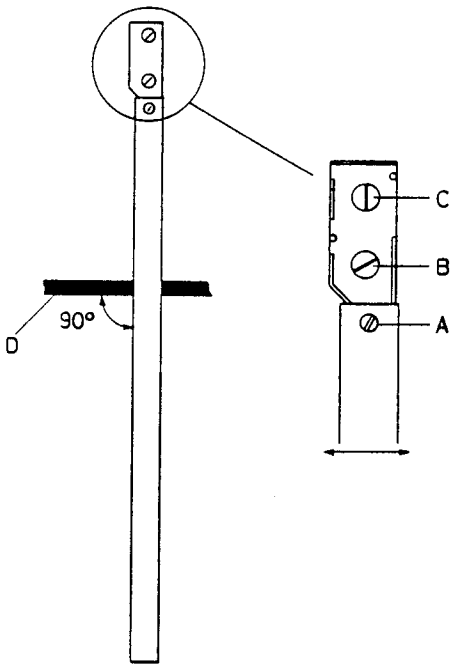
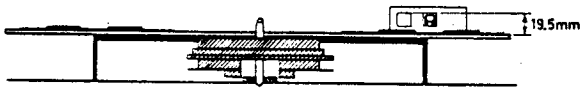


Loosen the screws B and C.

Tighten the screw B very gently.

Turn the detector arm until it is at right angles to the rod D.

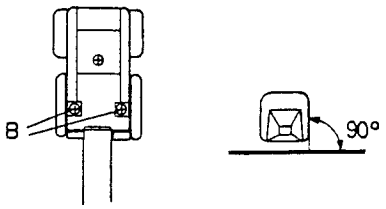
Tighten the screws B and C.



After tightening, check that the height between the upperside of the detetor arm down to the turntable is 19.5 mm.

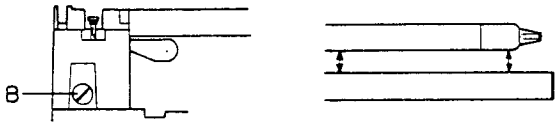
Adjustment is done with the screw A.

Pick-up Parallelism



Adjust the screws B – by loosening and tightening respectively – until the side of the pick-up is at right angles to the turntable.

Vertical Parallelism of the Pick-up Arm



Adjust the screw B gently until the pick-up arm vertically parallels the detector arm.

Horizontal Parallelism of the Pick-up Arm

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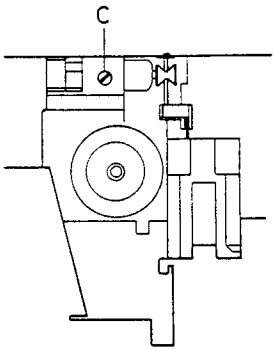
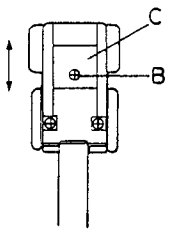


Adjust the screw C (to be found under the bottom of the carrier unit) until the pick-up arm horizontally parallels the detector arm.

Pick-up Arm Balancing



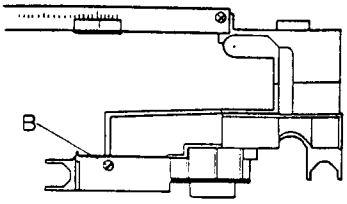
Set stylus pressure at 0.

Loosen screw B.

With the pick-up arm lowered, move the counterbalancing weight C in either of the arrow directions until the pick-up is balanced.

Tighten the screw B and set the stylus pressure at 1 g with MMC2.

Aperture for Photo Control



Adjust the aperture with testing record 3621001 in cutting 5.

Take the pick-up arm across to cutting 5 (stationary turntable) and lower it.

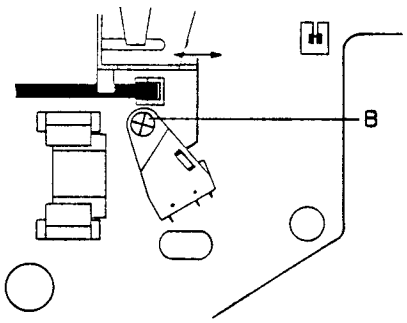
Make sure that the aperture housing is not exposed to any stray light such as a bench lamp.

Make the adjustment with the screw B in such a way that the first servo mechanism regulation after set-down will take place after 2 ±1 rotations of the turntable and then after each rotation.

To test the aperture regulation only, check that it regulates within 1/2 to 6 revolutions.

It is **possible** to adjust without disassembly, by only removing the black cover which houses the pick-up brush. This adjustment is to be made as above, the only difference being that the turntable must be braked to stop with the hand.

SO Switch

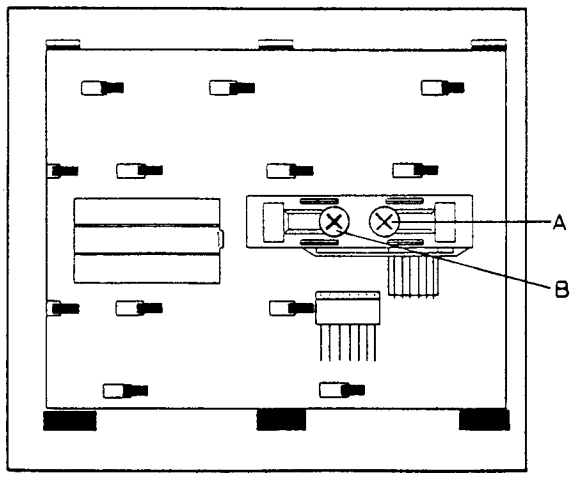


Activate Play with a stationary turntable and with a record with correct 30 cm set-down (146.3 mm to 148.25 mm from the record centre).

Notice the 30 cm set-down position of the pick-up.

Loosen the screw B and move the SO switch in either of the arrow directions so as to compensate for any misplaced set-down.

Manual ≪ and ≫

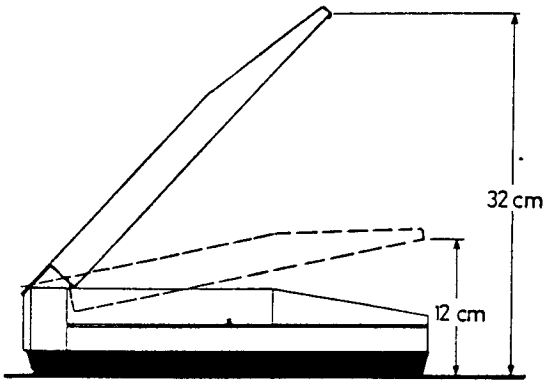


Adjust the screw A and B after approx. 5 minutes operation until 620 mV is measured on pin 4 of P5 and on pin 6 of P5.

Dust Cover Lid Spring

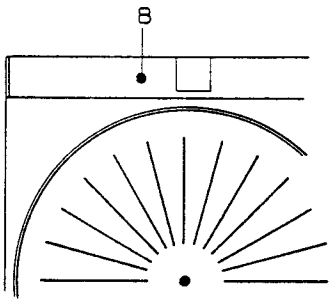
1. Lifting adjustment:

   Lift the dust cover lid gently and release it when the lower front edge of the lid has been raised approx. 32 cm above the record player base. The lid will then automatically seek its top position.



2. Lowering adjustment:

   Lower the dust cover lid gently and release it when the lower front end of the lid is approx. 12 cm from the base. The lid will then automatically seek its closed position.



Adjust the dust cover lid with the screw B.

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Lubrication Chart

The need for relubrication is negligible.

In the case of overhauls and when replacing mechanical parts the directions below should be followed.

Point of lubrication	Lubricant	Remarks
Turntable bearing	3984008, M4 oil	Apply to shaft point + streak throughout length of shaft
Spindle pos. No. 0018	3984216, Rocol MTS 1000. Dilute to oily consistency (1:1) with 3984221, ESSO NUTO H44/HP32	Apply to spindle at least in 5 points
Spindle bearing	3984030, Barrierta L55/2	
Lift-lower	Castrol oilit 3984211	Apply to needle on pos. No. 0516
Damping of alu. lid 3984005	Kilopoise 3984005	Apply in one streak at each side

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TECHNICAL SPECIFICATIONS

Wow and flutter DIN	<±0.04%
Wow and flutter WRMS	<±0.02%
Rumble DIN weighted	>75 dB
Rumble DIN unweighted	>50 dB
Speeds	33-45 rpm
Speed diviation	<0.003%
Speed control range	±3%
Tangential tracking	<0.04°
Power consumption	15W
Dimensions W x H x D	49 x 9 x 37.5 cm
Weight	9 kg

Power Supply and Frequency

Type 5631	100V 50 Hz
Type 5632	100V 50 Hz
Type 5633	120V 60 Hz
Type 5634	127V 50 Hz
Type 5635	220V 50 Hz
Type 5636	240V 50 Hz
type 5637 (AUS)	240V 50 Hz

MMC2 Cartridge

Recommended tracking force	10 mN/1 g
Frequency range	20-20,000 Hz ±1.5 dB
Channel separation 1000 Hz	>25 dB
Channel separation 50-15,000 Hz	>20 dB
Channel difference	<1.5 dB
Stylus	Contact line naked diamond
Cantilever	Sapphire tube
Effective tip mass	0.3 mg
Compliance	30 µm/mN
Sensitivity mV/cm/s RMS	>0.6 mV
Output 5 cm lateral RMS	>2.12 mV
Cartridge weight	1.6 g
Load impedance	≧47 kΩ
Load capacity	≦400 pF

Subject to change without notice

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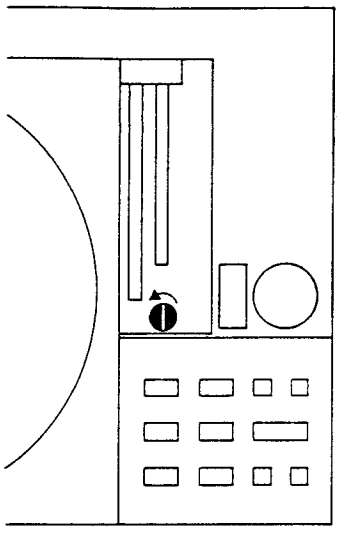
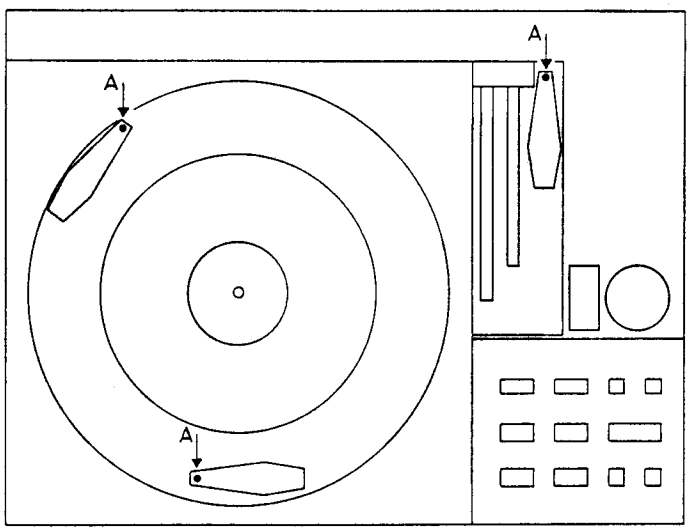
DISMANTLING
Servicing Position

Loosen the black cover plate below the pick-up arm assembly by turning the black screw 1/4 turn in the direction of the arrow.



Remove the turntable.



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Lift the hooks for the suspension of the train drive/chassis off the suspension springs in the points A.

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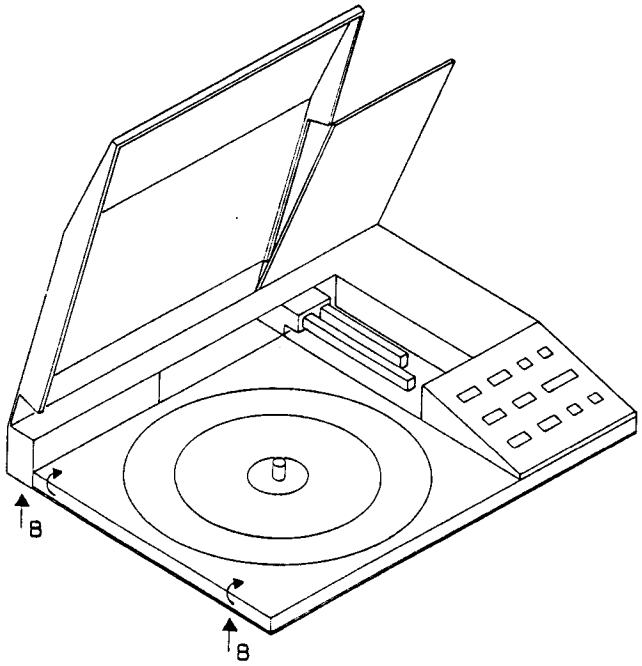
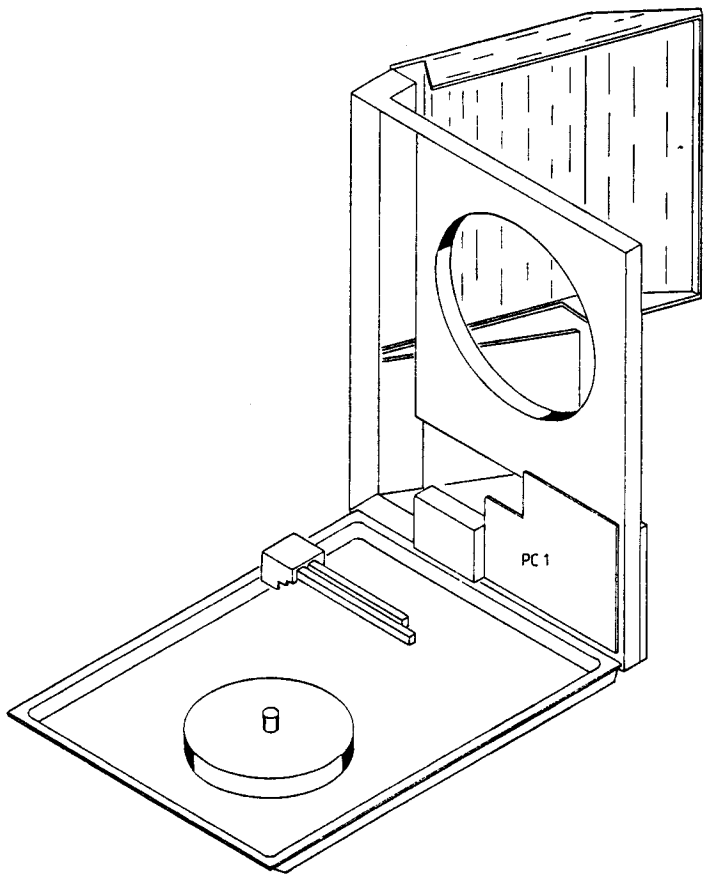
Remove the screws B.



Push, with due care, the train drive chassis to the right.

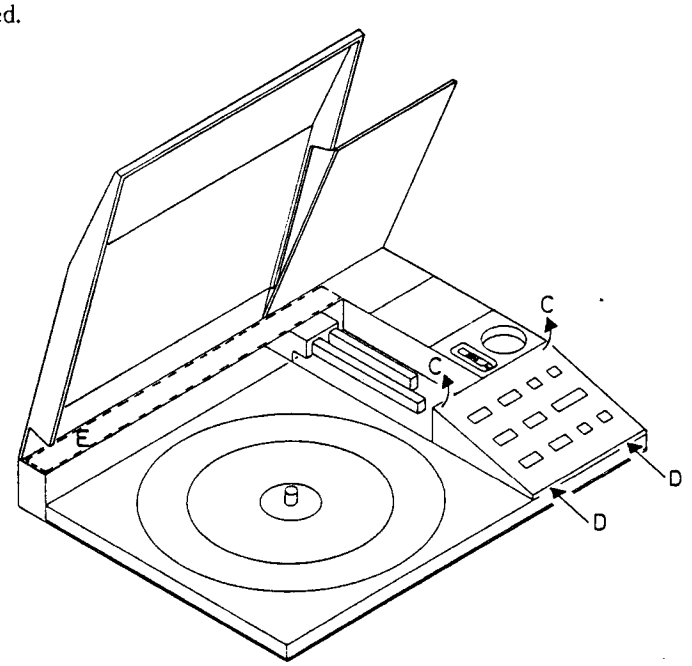
By lifting carefully at the left side of the top part it can now be tilted into the servicing position.



When assembling, make sure the back part (pos. 003) catches the rear edge of the bottom plate completely.

Control Panel

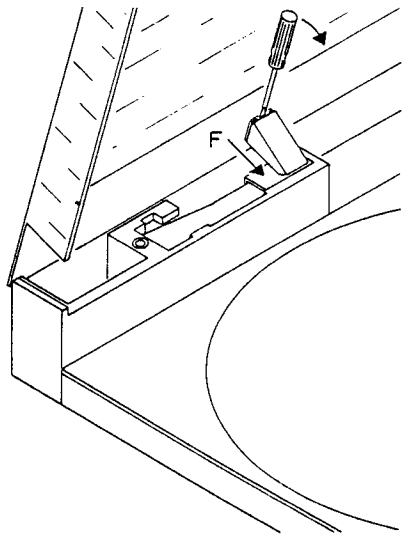
By lifting the rear edge of the control panel/cover (C) the retainer pins may be released.



After the retainer pins at the top edge of the control panel/cover have been loosened, pull the control panel cover in the direction of the arrows C, and then push in the direction of the arrows D.

Dust Cover Spring

Remove cover E.

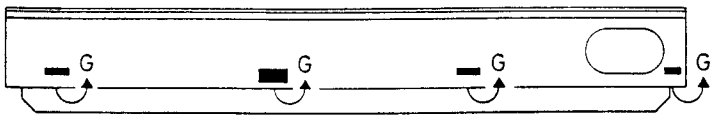


Press the dust cover spring down at the point F while the dust cover remains in its open position.

Insert a screwdriver between the dust cover and the cover hinge.

Lever the screwdriver with care in the direction of the arrow until the cover hinge is released.

Dust Cover



Pull carefully at the rear part in the direction of the arrows G until the rear part and the cover are released.

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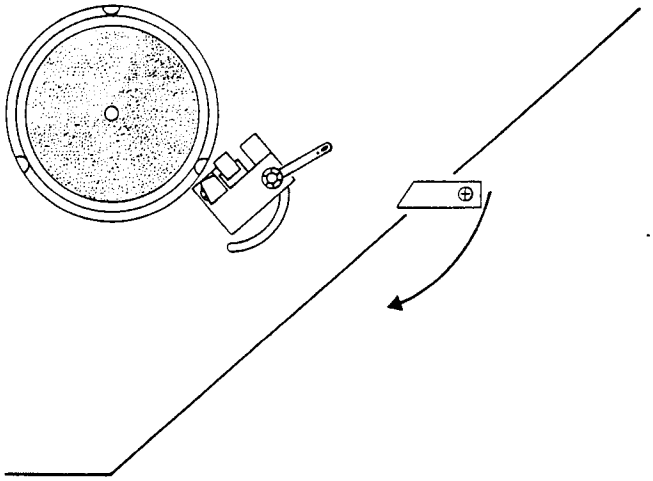
SERVICETIPS

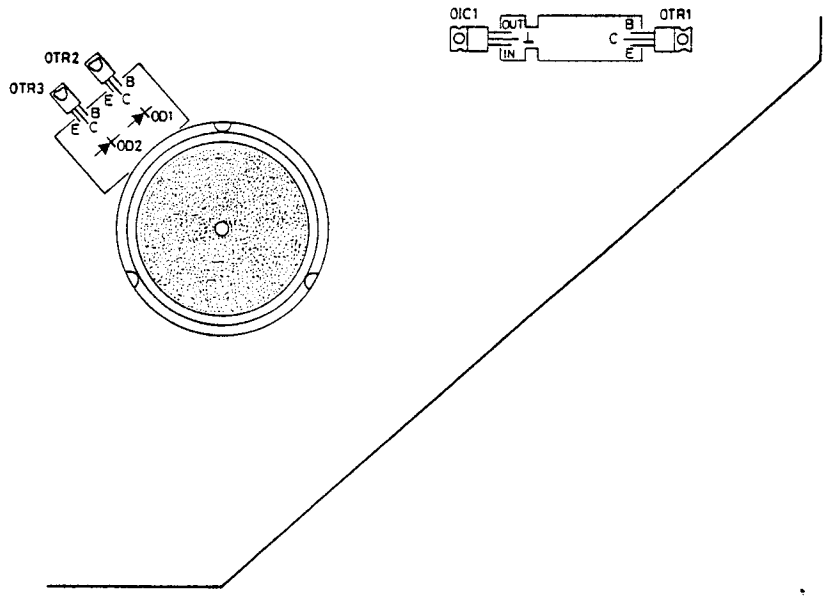
Turntable Hub

In order to avoid damage when demounting the turntable hub with the tacho disc, make sure that the opto yoke has been pulled all the way in the direction of the arrow.



Prior to re-mounting the turntable with the tacho disc, make sure that the tacho disc has been cleaned for any dust and dirt, which in certain cases can result in wow.

Layout of Active Components of the Train Drive Chassis



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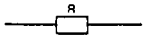
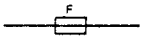
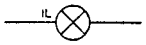
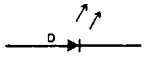
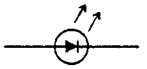
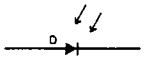
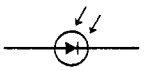
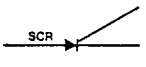
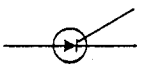
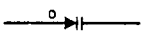
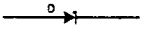
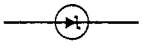
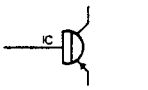
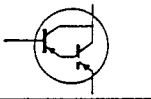
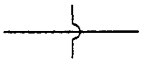
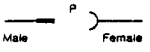
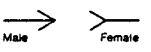
Symbols

	Bang & Olufsen	US
Resistor		
Electrolytic Capacitor		
Fuse		
Lamp		
Light Emitting Diode (LED)		
Photo Diode (Photosensitive type)		
Silicon Controlled Rectifier (SCR)		
Varactor		
Zener Diode		
Darlington Transistor (PNP)		
Wires Crossing		
Wire Connecting		
Ground, 0-point DC		

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Insulation Test

Each record player **must** be insulation tested after having been dismantled. The test is to be made when the record player has been reassembled completely and is ready for delivery to the customer.

Make the insulation test as follows:

Short-circuited the two pins of the mains plug and connect one of the terminals to the insulation tester.

The other terminal from the insulation tester is connected to the chassis plate near the 7 pol. DIN-socket.

NOTE!
To avoid ruining the record player it is essential that both insulation tester terminals are in really good mechanical contact.

Now slowly turn the voltage control of the insulation tester until a voltage of 1.5-2 kV is obtained. Hold it there for 1 second, then slowly turn the voltage down again.

At no point during the testing procedure any flash-overs are permissible.